

UK Patent Application GB 2 352 944 A

(43) Date of A Publication 07.02.2001

(21) Application No 0013114.4

(22) Date of Filing 31.05.2000

(30) Priority Data

(31) 99019813 (32) 31.05.1999 (33) KR
(31) 99036383 (32) 30.08.1999

(71) Applicant(s)

Electronics and Telecommunications Research
Institute
(incorporated in the Republic of Korea)
161 Gajung-Dong, Yusong-ku, Daejeon,
Republic of Korea

(72) Inventor(s)

Hyuck-Jae Lee
Jae-Heung Kim
Jae Ryong Shim
Jong-Suk Chae
Jung-Im Kim
Narm-Hee Lee
Seung-Chan Bang
Tae-Joong Kim

(51) INT CL⁷

H04B 1/707, H04J 13/04, H04L 27/34

(52) UK CL (Edition S)

H4P PAQ PDCSL

(56) Documents Cited

EP 0921652 A2 WO 99/59265 A1 WO 99/38337 A2
WO 00/42752 A1
Electronic Letters, Vol. 34, No.23, 12 November 1998,
pages 2210-2211 INSPEC Abstract Accession No.
6468729 & "Proc. of. 3rd CDMA Int. Conf.", 1998, ETRI,
pp 101-105

(58) Field of Search

UK CL (Edition R) H4P PAQ PDCSL
INT CL⁷ H04B 1/707, H04J 11/00 13/02 13/04, H04L
23/02 27/34
Online: WPI, EPODOC, JAPIO, INSPEC

(74) Agent and/or Address for Service

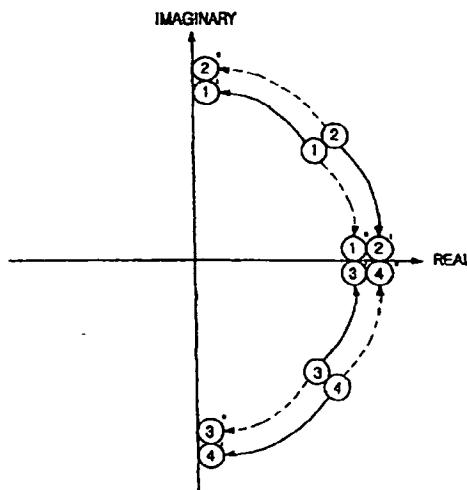
Eric Potter Clarkson
Park View House, 58 The Ropewalk, NOTTINGHAM,
NG1 5DD, United Kingdom

(54) Abstract Title

Orthogonal modulation scheme with reduced peak to average power ratio (PAPR)

(57) The present invention relates to an apparatus and method for modulating data by employing orthogonal variable spreading factor (OVSF) codes in a mobile communication system. A code generating means generates at least one spreading code to be allocated to a channel and is selected such that two consecutive pairs of in-phase (I) and quadrature (Q) data correspond to two points located on the same point in the phase domain (see figure) or are symmetrical with respect to the zero point (see fig. 9). Data for transmission is then spread using the generated code and phase rotated by a Walsh rotator such that the phase difference between consecutive points is ninety degrees (90°). The ninety degree phase difference leads to a reduction in the peak to average power ratio (PAPR) of a mobile station. Preferably the orthogonal complex quadrature phase shift keying (OCQPSK) modulation scheme is adopted.

FIG. 8



At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

BEST AVAILABLE COPY

GB 2 352 944 A